

Appl. No. 10/022,350
Amendment dated: August 18, 2004
Reply to OA of: May 18, 2004

REMARKS

This is in response to the Official Action of May 18, 2004, in connection with the above identified application. The Official Action is a Restriction Requirement in which it is urged that there are two separate and distinct inventions claimed in this application. Applicant elects the Group I invention which includes the subject matter of claims 1-12 and 16, previously presented, with traverse.

In this regard, please note that claim 18 has been added to include the Young's modulus as previously presented in claim 1 and as requested in the Official Action for the Group I invention. New claims 19 and 20 have also been added to the application. Claim 18 corresponds to claim 1 with the Young's Modulus limitation and is directed to the Group I invention. Claim 19 corresponds to claim 17 but is dependent on the nonelected invention of Group II. Claim 20 is directed to the method of claim 17 directed to the elected invention of claim 18. Applicant most respectfully submits that all of the claims now present in the application are in full compliance with 35 USC 112, are distinguishable over the prior art and are directed to a single generic concept as included in claim 1, note dependent claim 18 which further limits claim 1 by defining the subject matter of claim 1 by a Young's modulus as requested in the outstanding Official Action. The application clearly contains claims directed to the elected invention.

Applicant does not agree with the Examiner's assertion that Groups I and II set forth in the Official Action represent patentably distinct inventions for the following reasons.

The claimed invention relates to a bag-splitting apparatus for use in splitting-open bags containing solid waste. The apparatus comprises a rotatable flail structure comprising a plurality of flexible flails that are attached to a rotatable mounting. The apparatus works like a strimmer. Thus, a bag coming into contact with the rotating flails are cut or split open by a strimming action.

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In order for the apparatus to work properly, the flails have to be flexible. Rigid flails, such as those employed in Eide, work by a batting rather than a strimming action. Thus, they can cause damage to the contents of the bags. The required flexibility of the flails may be defined in two ways: i) in terms of the structural properties of the flails or ii) in terms of the function of the flails. To define the flexibility of the flails in terms of their structural properties, Applicant has defined the stiffness or Young's Modulus of the material used to form the flails (see Group I). To define the flexibility of the flails functionally, Applicant has emphasized that the flails may be rotated at high speeds to provide a whip-like cutting action as set forth in claim 1. Although the wording of these definitions differ, they relate to the same inventive concept. Groups I and II of the claims, therefore, are not patentably distinct but are closely related as discussed and as would be appreciated by one of ordinary skill in the art to which the invention pertains. See also MPEP section 806.05(d) for generic invention. Also, clarification is requested with respect to the meaning of offering a specific material in contact with a bag and how this represents a patentably distinct invention as indicated in the Official Action.

The Examiner has questioned whether the original search carried out in respect of this application is sufficient for the examination of Group II of the claims. As explained above, Groups I and II are not patentably distinct. Thus, the search is considered to be sufficient. Moreover, it is clear that, although the original claims were limited by a Young's Modulus limitation, the Examiner considered the way in which the invention works when carrying out the original search. In this regard, documents, such as Eide, were cited even though they do not refer to Young's Modulus.

Accordingly, it is most respectfully requested that the restriction requirement be withdrawn, the claims withdrawn from consideration be reinstated and an early and favorable action on the merits of all of the claims in the application be granted.

Applicant also amended the claims to more particularly define the invention taking into consideration the previous Official Action on the merits and to overcome all

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of the outstanding rejections therein. Claim 1 has been amended to recite that the flexible flails are rotatable at relatively high speeds to provide a whip-like cutting action to tear open the plastic bags and with the required Young's Modulus. Basis for this claim limitation can be found at page 3, lines 2-9 of Applicant's specification. The reference to Young's Modulus has been also removed from the claim in view of the definition of the flexibility of the flails now present in the claims.

Claims 2, 3 and 4 have been deleted from the application as noted in the previous response. Claim 19 to a method had been added. This method corresponds to claim 1 and is fully supported by Applicant's specification as would be appreciated by one of ordinary skill in the art to which the invention pertains.

The following comments are included from the previous response.

The rejection of claims 1-4 and 6 under 35 U.S.C. 102(b) as being anticipated by Dongieux, Jr. has been carefully considered but is most respectfully traversed.

Applicant wishes to direct the Examiner's attention to MPEP § 2131 which states that to anticipate a claim, the reference must teach every element of the claim.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed.Cir. 1990).

The present invention is directed to a bag splitting apparatus comprising a rotatable flail structure having a plurality of flexible flails. The flails are rotatable at relatively high speeds to provide a whip-like cutting action. Typically, the flails weigh less than 10 g, and preferably, less than 5 g. Thus, when rotated at high speeds (e.g.

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at least 11 m/s), the flails stiffen and provide a cutting action that tears open the bags whilst causing minimal damage to the contents of the bags.

The Examiner is of the view that the subject matter of claims 1-4 and 6 is anticipated by '371 (Dongieux). Applicant submits that this rejection does not apply to amended claim 1 and the claims dependent thereon. This is because the '371 reference does not disclose the use of flexible flails that are rotatable to provide a whip-like cutting action which is a claim limitation which cannot be ignored. Although the Dongieux device comprises a plurality of flexible fingers, these fingers are incapable of providing a whip-like cutting action. Instead, the fingers of the Dongieux device are formed of hollow wound springs that are rotated to delump a pasty mass (see column 2, lines 43 to 46, and column 3, lines 5 to 7). The lumps are removed by the impact of the flails on the lumps. This hammering action relies on the use of flails having a relatively high mass. Such flails are incapable of providing a whip-like cutting action. In fact, the Dongieux reference recites that, after the delumping step, conventional pelletizers and/or granulators are required to cut the pasty mass into shape (see column 3, lines 12 to 18). This highlights the fact that the flails of the Dongieux device are incapable of performing a cutting action and cannot be said to anticipate the rejected claims.

The Dongieux device is preferably rotated at a speed in the range of 30 to 120 rpm (see column 2, lines 63 to 65). At this speed of rotation, the fingers of the Dongieux device flex to remove lumps from the pasty mass. The flexing action also prevents the pasty mass from sticking to the fingers. However, there is no disclosure in the reference of rotating the device to provide a whip-like cutting action that is capable of tearing open bags.

The Examiner is of the view that, with proper gearing and a powerful enough motor, one could rotate the flail structures hundreds of times per millisecond. The Examiner, however, has not provided any evidence to support this assertion. As mentioned above, the Dongieux device relies on the use of relatively heavy flails, which delump material by a hammering action. It is not apparent that such flails could be

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rotated at high speeds, as such speeds would require a high degree of rotational balance to avoid overloading and failing of the bearings. Moreover, the viscosity of the pasty mass would put additional strain on the device. Accordingly, it is most respectfully requested that this rejection be withdrawn.

The rejection of claims 1, 5 and 6 under 35 U.S.C. 102 as being anticipated by the patent to Andela has been carefully considered but is most respectfully traversed. This reference does not meet all of the claim limitations and is not an anticipation of these claims.

The purpose of the Andela device is to pulverize glass. As illustrated in Figure 7, the Andela device comprises a plurality of multi-link chains that are rotated about a shaft to break glass by a hitting or hammering action. As described in column 3, lines 35 to 38, the glass is bounced back and forth between the flails causing it to break up into smaller fragments. As can be seen from Figures 10 and 11, a heavy end portion 108 is provided to improve the hammering action. This contrasts sharply with the flails of the present invention that are designed to split open bags, whilst causing minimal damage to the bags' contents. There is no mention or suggestion in the Andela document that the flail structure may be rotated at high speeds to provide this whip-like cutting action. In fact, given the relatively high mass of the hammers of the Andela device, it is not apparent how the Andela device may be used to provide a whip-like cutting action.

The Examiner notes that the flails are encased in plastic. This is to reduce wear and prevent direct contact between the flail's flexible connection points and the glass particles (see column 3, lines 8 to 10). This encasing step does not provide the flail structure of the Andela device with a whip-like cutting action as required by claim 1.

The Examiner is also of the view that, with proper gearing and a powerful enough motor, one could rotate the flail structure of the Andela reference hundreds of times per millisecond. As explained in relation to the Dongieux reference, the Examiner has not provided any evidence to support his assertion. In fact, the Andela reference is silent

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on specific speeds of rotation. Accordingly, it is most respectfully requested that this rejection be withdrawn.

In view of the foregoing, Applicants submit that claim 1 is novel over the Andela reference. The dependent claims are also considered to be novel at least by virtue of their dependency on claim 1. As regards the new independent method claim, it is submitted that this claim is novel over the Dongieux and Andela references for the reasons outlined above. Moreover, it should be noted that there is no mention or suggestion in the prior art of splitting open bags containing solid waste using the Andela and Dongieux devices. Accordingly, it is most respectfully that all of the claims in the application are in full compliance with 35 USC 112 and are clearly patentable over the references of record.

In view of the above comments and further amendments to the claims, favorable reconsideration and allowance of all of the claims now present in the application are most respectfully requested.

Respectfully submitted,

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